

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Amended) (Currently Amended) or use in data packet transmissions between a transmitter and a receiver where a data packet ~~may include~~ includes a first type of bits corresponding to actual information bits and a second type of bits corresponding to parity bits, the ~~first type of~~ information bits being more important to decoding than the ~~second type of~~ parity bits, and where a negatively acknowledged packet triggers a retransmission of the ~~second type of~~ parity bits to be used in a subsequent decoding operation at the receiver, a method comprising:

detecting an absence of a data packet;
sending a lost signal to the transmitter rather than a negative acknowledgment;
in response to the sending of the lost signal, receiving from the transmitter a first retransmission of the ~~first type of~~ information bits of the data packet; and
decoding the first retransmission.

2. (Canceled).

3. (Currently Amended) The method in claim 1, wherein the first retransmission also includes a first set of the ~~second type of~~ parity bits of the data packet.

4. (Currently Amended) The method in claim 1, further comprising:
if the decoding of the first retransmission is not successful, sending a negative acknowledgment to the transmitter;

receiving from the transmitter a second retransmission including a second set of the ~~second type of~~ parity bits different from the first set;

decoding the data packet using information from the first and second retransmissions.

5. (Currently Amended) The method in claim 4, wherein the second transmission does not include the ~~first type of~~ information bits.

6. (Currently Amended) The method in claim 4, wherein the second transmission includes the ~~first type of~~ information bits and the second set of the ~~second type of~~ parity bits.

7. (Original) The method in claim 1, wherein the packet is detected as absent by determining that a packet with a particular identifier expected to be received was not received in an expected time period.

8. (Original) The method in claim 1, wherein the packet is detected as absent by comparing a decoding result for the packet with a threshold.

9. (Currently Amended) A method of processing received encoded data packets, each encoded data packet including a first group of bits corresponding to actual information bits and a second group of bits corresponding to parity bits, where the ~~first group~~ information bits are more important to decoding the data packet than the ~~second group~~ parity bits, comprising:

decoding a received packet to produce an interim decoding result;

determining if the interim decoding result is above a threshold;

if the interim decoding result indicates an error in the received packet and the interim decoding result is at or above the threshold, sending a negative acknowledgement signal to trigger a retransmission of the parity bits;

if the interim decoding result is not above the threshold, sending a lost signal rather than a negative acknowledgement signal;

receiving a first retransmission of the ~~first-group~~ information bits of the data packet; and

decoding the first retransmission.

10. (Currently Amended) The method in claim 9, wherein the first retransmission also includes a first set of the ~~second-group~~ parity bits of the data packet.

11. (Currently Amended) The method in claim 9, further comprising:
if the decoding of the first retransmission is not successful, sending a negative acknowledgment to the transmitter;

receiving from the transmitter a second retransmission including a second set of the ~~second-group~~ parity bits different from the first set;

decoding the data packet using information from the first and second retransmissions.

12. (Currently Amended) The method in claim 11, wherein the second transmission only includes the second set of the ~~second-group~~ parity bits.

13. (Currently Amended) The method in claim 11, wherein the second transmission includes the ~~first group~~ information bits and the second set of the ~~second group~~ parity bits.

14. (Currently Amended) Apparatus for use in a transmitter which transmits data over a communications channel, comprising:

a signal processor configured to process data and generate corresponding systematic information bits and parity bits;

a combiner configured to selectively receive systematic information bits and parity bits and generate a coded data packet;

transceiving circuitry configured to transmit coded data packets over the communications channel;


a controller configured to control which bits are selected by the combiner to generate the coded data packet based on feedback from a receiver,

wherein when a negative acknowledgment is received, parity bits are retransmitted over the communications channel to the receiver, and when a lost signal is received or no acknowledgment or negative acknowledgment is received, the controller is configured to retransmit the systematic information bits ~~are retransmitted~~ over the communications channel to the receiver.

15. (Original) The apparatus in claim 14, wherein the signal processor and combiner is implemented using a turbo encoder.

16. (Original) The apparatus in claim 15, wherein the communications channel is a radio channel.

17. (Currently Amended) The apparatus in claim 14, wherein when a lost signal is received or no acknowledgment or negative acknowledgment is received, the systematic information bits are retransmitted over the communications channel to the receiver along with parity bits originally transmitted with the systematic bits.

 18. (Currently Amended) The apparatus in claim 14, wherein when a lost signal is received or no acknowledgment or negative acknowledgment is received, the systematic information bits are retransmitted over the communications channel to the receiver along with parity bits different from the parity bits originally transmitted with the systematic information bits.

19. (Currently Amended) The apparatus in claim 14, wherein when the systematic information bits are retransmitted, and a negative acknowledgment signal is received in response to the retransmission, parity bits associated with the systematic information bits are retransmitted over the communications channel to the receiver without the systematic information bits.

20. (Currently Amended) The apparatus in claim 14, wherein when a negative acknowledgment signal is received, the systematic information bits are retransmitted over the communications channel to the receiver along with parity bits.

21. (Currently Amended) The apparatus in claim 14, wherein when a negative acknowledgment signal is received, parity bits are transmitted over the communications channel to the receiver without the systematic information bits.

22. (Currently Amended) Apparatus for use in a receiver which receives data over a communications channel, comprising:

transceiving circuitry configured to receive a coded data packet transmitted over the communications channel by a transmitter, where an initially transmitted coded data packet includes a first type of bits corresponding to actual information bits and a second type of bits corresponding to parity bits, the ~~first type of~~ information bits being more important to decoding than the ~~second type of~~ parity bits; and

packet processing circuitry configured to detect the absence of an expected packet and to transmit a lost signal to the transmitter rather than a negative acknowledgement signal, and thereafter, to decode a first retransmission of the expected packet which includes the ~~first type of~~ information bits.

23. (Original) The apparatus in claim 22, wherein the packet processing circuitry includes:

a decoder for decoding a received data packet, and

wherein if the data packet cannot be properly decoded, a lost signal is sent to the transmitter.

24. (Original) The apparatus in claim 22, wherein the packet processing circuitry includes:

a buffer for storing received data packet information;
a combiner for combining buffer information with retransmitted information;
a decoder for decoding an output of the combiner; and
a controller coupled to the buffer, combiner, and decoder.

25. (Original) The apparatus in claim 24, wherein the decoder is a turbo decoder.

26. (Original) The apparatus in claim 24, wherein the buffer and the combiner perform an incremental redundancy operation.

27. (Original) The apparatus in claim 24, wherein the decoder performs error correction and the packet processing circuitry further detects errors in the output of the decoder.

28. (Original) The apparatus in claim 24, wherein if the decoder output is not acceptable, the controller sends a negative acknowledgment signal to the transmitter.

29. (Currently Amended) The apparatus in claim 28, wherein in response to the negative acknowledgment, the receiver receives a retransmission including a set of ~~second-type~~ parity bits without the ~~first-type~~ information bits.

30. (Currently Amended) The apparatus in claim 28, wherein in response to the negative acknowledgment, the receiver receives a retransmission including a set of ~~second-type~~ parity bits along with the first type bits.

31. (Canceled).

32. (Currently Amended) The apparatus in claim 22, wherein the first retransmission also includes a first set of the ~~second-type~~ parity bits.

33. (Currently Amended) The apparatus in claim 22, wherein if decoding of the first retransmission is not successful, a negative acknowledgment is sent to the transmitter, and in response, a second retransmission is received including a set of the ~~second type of~~ parity bits without the ~~first type of~~ information bits.

34. The apparatus in claim 33, wherein the second transmission is received including the ~~first type of~~ information bits and the ~~second type of~~ parity bits.
